

# **EXHIBIT G**

***In Re: Platinum and Palladium Commodities Litigation*  
Master File No. 10-civ-3617 (WHP)**

**Physical Plaintiffs' Volume Analysis**

**I. Experience and Qualifications**

My name is Jeffrey M. Christian. I am Managing Partner of CPM Group, a commodities research, consulting, financial advisory and commodities management firm providing independent research, analysis and advisory services related to commodities markets, corporate and project finance, and the financial management of exposure to commodity oriented investments. I have been an analyst and advisor on commodities markets since the 1970s, with work spanning precious metals, energy markets, base metals, agricultural markets, and economic analysis in general. I am considered by people throughout the international precious metals markets as one of the foremost experts on precious metals markets, commodities in general, and financial engineering using options for hedging and investing purposes.

I founded CPM Group in 1986. Among other things, we advise many of the world's largest corporations and institutional investors on managing their commodities price and market exposures, as well as providing advisory services to the World Bank, United Nations, International Monetary Fund, and numerous governments. I wrote what is considered in the market to be the first market report on platinum group metals in May 1981, when what is now CPM Group was the Research Department at J. Aron & Co. (J. Aron merged into Goldman, Sachs and Co. later in 1981 and I became vice president of the Commodities Research Group at Goldman, Sachs, which I spun out in a management buyout in 1986 to form CPM Group.) My research team and I have written extensively and have been involved in market activities related to platinum and palladium since the 1980s. I wrote the business plan for the U.S. Mint's Platinum Eagle program in the 1990s, developed the Mint's platinum procurement and management program, and managed the Mint's purchases. We have been extensively involved in the platinum and palladium markets throughout our history, and this year developed and managed a platinum lease tender for the U.S. Mint, as an example of our knowledge of the workings of these markets. My experience and qualifications are fully set forth in my curriculum vitae, attached as Exhibit 2 to my executed declaration.

**II. Introduction**

This report opines on the amount of platinum and palladium traded within the United States from October 2007 through July 2008, and briefly opines on correlations between the futures and physical market.

Calculating physical platinum and palladium volumes bought and sold within the United States at prices related to or influenced by NYMEX futures settlement prices requires consideration of

several factors: (a) how much platinum and palladium metal is bought and sold in the United States; (b) which prices the transactions use; and (c) the relationship between the prices in physical platinum and palladium transactions and the NYMEX settlement price on days on which respective transactions in like physical platinum or palladium occurred. The third consideration requires physical platinum or palladium be of the same form and qualities as NYMEX deliverable metal.

Platinum and palladium are purchased and sold in a number of venues around the country, and in a number of forms. Fabricators use these metals in a host of manufactured products. Industrial users range from small companies, such as jewelers, to large companies that use these metals in automotive emission catalysts, petroleum refining catalysts, electronic components, chemical and pharmaceutical process catalysts, glass making equipment, and numerous other projects. Others buy platinum and palladium as investment products, ranging from one-ounce coins, medallions and bars to 10-ounce and larger bars and ingots. How much metal is being purchased by these numerous individual participants is unknown, and there are no statistics from either government agencies or private corporations outlining the volumes in either the primary or secondary markets supplying metal to these buyers.

As these transactions are made, a number of reference prices are used. Some of these transactions are based directly off the NYMEX futures prices, either at the time of the transaction or on the basis of the daily settlement price. Other volumes are bought and sold basis the London afternoon and morning fixing prices, daily reference prices set in the London over the counter market. Still other volumes are bought and sold based on "fabricator prices" quoted by various refiners and semi-manufacturing fabricators. The list of these companies includes Johnson Matthey, BASF, Heraeus, with the first two companies being the most commonly referred to fabricator prices in the markets. Still other volumes are sold on a spot basis by dealers around the country. All of these prices tend to move in concert with each other due to the opportunities to arbitrage between markets: If one price becomes too far removed from other market prices, market participants with the ability to buy in one market and sell in another will take the opportunity to do so, until such time as the spread between the two disparate prices closes to a range that makes such trades unprofitable for the arbitrageur.

### **III. U.S. Physical Platinum and Palladium Markets**

#### **1. Data on platinum and palladium transactions**

Non-market participants often are surprised by the lack of concrete data on the volumes of physical platinum and palladium bought and sold in the United States. No official statistics exist from any government office to show how much physical platinum and palladium is being purchased for use by fabricators in the United States, known as "sponge metal." Nor is there any information on how much physical platinum and palladium is being purchased or sold for investment purposes or transacted by investors via bullion metal.

Two private organizations, Johnson Matthey and CPM Group, produce estimates of the volumes of physical platinum and palladium purchased by fabricators in the United States, as well as

additional statistics on aspects of supply and demand. There are no regularly published estimates of secondary recovery of these two metals from scrapped fabricated products in the United States, although CPM Group has these statistics on a global basis.

The charts and tables in this report comparing CPM Group's statistics for U.S. demand for physical platinum and palladium to the estimates published by Johnson Matthey show wide differences in estimates of fabrication demand between the two companies' sets of statistics, which demonstrates the uncertainty surrounding estimates of physical platinum and palladium purchases within the United States.

Virtually every aspect of the markets for physical platinum and palladium is secret at the individual corporation and investor level, as is the case with most physical commodity markets. No government program collects data on transactions in physical platinum or palladium, other than providing some crude estimates of discrete segments of the larger platinum and palladium market, such as mine production levels, and no regulation requires companies or investors to report their transactions in physical platinum and palladium, except in marginal portions of the markets such as when investors sell more than \$10,000 worth of precious metals bullion investment products to a registered dealer. In this instance, the dealer is required to complete a 1099D form to report the transaction to the IRS. Most other physical platinum and palladium transactions occur in unregulated over the counter markets where the transaction sizes, volumes, and values go unreported.

In the absence of concrete data, the platinum and palladium markets rely on anecdotal commentary, research, and the estimates of supply and demand made by CPM Group and Johnson Matthey.

## 2. Investment market versus fabricator market

There are different markets for physical platinum and palladium in the United States. Broadly speaking there are two markets: An investment market, in which these metals are held in metal form, fungible and resalable on a moment's notice; and a market for fabrication demand in which these metals are used in manufactured products. Most platinum and palladium trades at a minimum purity of 99.95% pure. This is the minimum purity standard in both the London and New York markets. Some fabricators will require additional purity standards for high tech applications, but the volumes that trade at higher purities are very small, and often trade at the same price level as the 99.95% considered acceptable to the bulk of both the industrial user and investor markets.

- In the investment market for physical platinum and palladium, individual and institutional investors buy, hold, and sell platinum and palladium as investments, either seeking capital gains or seeking to provide a diversification of their investment portfolios as a hedge against adverse price moves of other assets they hold.
- In the fabricators market, producers, refiners, and metals dealers supply physical platinum and palladium to semi-fabricators and manufacturers for use in fabricated products. Products using physical platinum and palladium include catalytic converters,

which reduce harmful emissions from automobiles and stationery emission sites (e.g. factories, bakeries, laundries), glass manufacturing equipment, electronic components, spark plugs, thermocouples, chemical process catalysts, petroleum refining catalysts, jewelry, and other products.

### **3. Fabricator market and industrial use**

The investment market and the fabricator market are quite distinct. In the fabrication demand segment of the market, physical platinum and palladium are consumed in the fabrication process. In the investment sector the metal is held in bullion form, and thus is not alloyed or manufactured in any way, and is available to be resold at the investor's whim.

This distinction is important in this case. Virtually all metal used in manufacturing is bought and sold in "sponge," or powder, form, which is much more readily useable than ingots, bars, or plates used almost exclusively in the investor market. Because of these differences, estimates of the amounts of metal bought for manufacturing purposes can be readily excluded from the calculations and estimates of the amounts of NYMEX good delivery metal bullion.

Most platinum and palladium purchased in the United States, and throughout the world, is purchased for industrial use, not investment use. The vast majority of the commercial platinum and palladium metal is transacted in powder form, called "sponge" in the platinum group metals markets. Sponge metal is *not* deliverable against NYMEX contracts.

The London Platinum and Palladium Market Association is the association that represents London banks and dealers trading in platinum and palladium in the London-centered over-the-counter market for these metals. According to the London Platinum and Palladium Market:

Noble metals are traded in their sponge form to varying degrees of activity and liquidity by many Members, Associate Members and Affiliates of the LPPM. However, sponge is unattractive as a trading and investment vehicle to the financial services industry, partly because of difficulties with the stacking and storage of sponge containers but primarily because the metal itself cannot be indelibly stamped with details of its purity and origins, leading to difficulties with "on-selling," or "Fungibility." For this reason, "Good Delivery" status is only accorded to bars, or "ingots," produced by refiners on the LPPM Good Delivery list. As a result, bullion banks, metal traders and financiers tend to manage the liquidity of their spot, forward and leasing "books" in terms of ingot metal. This is an important fact to understand when making decisions about the type of hedge that can best mitigate a Noble Metal exposure.

Thus much of the physical platinum and palladium metal bought in the United States, purchased solely for fabrication purposes in "sponge" form, cannot be accurately tracked for origin, cannot be accurately tracked for purity, and cannot be reliably stacked or stored, and thus is disqualified as a trading and investment vehicle. Nor does industrial-use platinum and palladium qualify for "Good Delivery" status, as the metal is not fungible and its purity cannot be readily established.

Fabrication platinum and palladium may be excluded from the calculations involved in the volume analysis for investor transactions and demand.

#### **4. Investment Market**

In contrast to the fabricator market, nearly all platinum and palladium traded by investors meets “Good Delivery” requirements, meaning platinum and palladium metal bought, sold, and traded among investors and dealers that service the investment market tends to be in bar, ingot or coin form, instead of sponge, and tends to be of 99.95% purity. Thus investors tend to buy good delivery, investment-grade platinum and palladium metal based on the London or New York spot market prices, or dealer prices derived from spot trading prices in New York. Much of the volume of these transactions are conducted during the business or trading day. Transactions generally are priced at the settlement price, and good delivery metal dealers set their prices at which they will buy and sell platinum and palladium based on either the previous day’s settlement price or the current day’s settlement price on NYMEX.

### **IV. United States Investment Demand**

Physical platinum and palladium investment volumes in the United States is even less certain than are estimates of fabrication demand. The U.S. Mint publishes statistics on its sales of Platinum Eagle bullion coins to authorized dealers, which are 99.95% purity assayed and stamped platinum coins for the investor and numismatic market. This is a small amount of platinum, totaling 5,263 ounces in 2007 and 5,652 ounces in 2008.

The United States Mint has no palladium bullion coins.

We also have reviewed confidential information from several major precious metals dealers in the United States concerning their monthly transactions in physical platinum bullion and palladium bullion.

Platinum and palladium exchange traded funds have been created since 2007; most of these investment funds store their metal in Zurich or London. No exchange traded funds have vaults storing metal in the United States; all of the metal purchased by investors through these funds and products is stored overseas. The prices at which investors buy and sell the shares of these funds, backed by physical metal, fluctuate throughout their trading day. Trading and price levels on the NYMEX futures contract clearly is related to the prices for these funds, due to the arbitrage opportunities between the markets.

CPM Group has estimates of the volumes of net additions and reductions in investor physical holdings of platinum and palladium bullion within the United States. These estimates must be taken with a great deal of understanding about the derived nature of these figures. A section of this report describes the research methodology behind these calculations.

CPM Group’s estimate of net investor purchases in the United States of platinum bullion during the period of October 17, 2007 through June 6, 2008 is 201,056 ounces.

CPM Group's estimate of net investor purchases in the United States of palladium bullion during the period of October 17, 2007 through June 6, 2008 is 933,718 ounces.

These figures are based on CPM Group's methodology, described below in Section VI.

There are no estimates of volumes of gross purchases and sales by investors in what is known as the "secondary market" for such investors. Estimates of such gross purchases and sales simply do not exist in the platinum and palladium markets.

## V. Platinum and Palladium Price Correlations

The various market prices for platinum and palladium bullion tend to be closely correlated, due to the fungibility of good delivery metals and arbitrage opportunities among markets. This is common among commodities markets.

Causality being beyond the scope of this study, correlations between physical platinum and palladium market prices quoted in London, by Johnson Matthey and by BASF, on the one hand, and the NYMEX settlement price, on the other hand, increased substantially during the period of October 17, 2007 through June 6, 2008.

For platinum prices, the correlation between the NYMEX Settlement prices and the Johnson Matthey prices rose from 87% for the period between February 2001 and August 2013, the base comparative period, to 96% during the period of October 17, 2007 through June 6, 2008. This was the most dramatic increase. The statistical relationship between the NYMEX settlement price with the BASF price increased 3%, between NYMEX and the London afternoon fix 3%, and between the NYMEX price and the London morning fix 4%.

### Correlation between Nymex Platinum Prices and Other Platinum Prices Over Select Periods

	Class Period	Long-Term Comparison
	17-October-2007 to 6-June-2008	1-February-2001 to 16-August-2013
<b>Johnson Matthey</b>	<b>96%</b>	<b>87%</b>
<b>BASF</b>	<b>78%</b>	<b>75%</b>
<b>London afternoon Fix</b>	<b>75%</b>	<b>72%</b>
<b>London morning Fix</b>	<b>55%</b>	<b>51%</b>

**Notes:** Correlations are between the daily changes in the Nymex platinum settlement price and the daily changes in the platinum price as quoted by Johnson Matthey, BASF, and the London Fix.

**BASF prices are U.S. Engelhard Industrial Bullion prices.**

**Sources:** CPM Group, Bloomberg

For palladium prices the correlation between the NYMEX settlement price and Johnson Matthey's quoted price rose 7% during the period of October 17, 2007 through June 6, 2008,

from 84% to 91%. The relationship between BASF's palladium prices and the NYMEX settlement price increased only 1% during the period of October 17, 2007 through June 6, 2008, while the relationship between NYMEX prices and the London afternoon fix rose 2% and that between the NYMEX price and the London morning fix rose 4%.

**Correlation between Nymex Palladium Prices and Other Palladium Prices Over Select Periods**

	Class Period	Long-Term Comparison
	17-October-2007 to 6-June-2008	1-February-2001 to 16-August-2013
<b>Johnson Matthey</b>	91%	84%
<b>BASF</b>	70%	69%
<b>London afternoon Fix</b>	69%	67%
<b>London morning Fix</b>	52%	48%

**Notes:** Correlations are between the daily changes in the Nymex palladium settlement price and the daily changes in the palladium prices as quoted by Johnson Matthey, BASF, and the London Fixes.  
**BASF prices are U.S. Engelhard Industrial Bullion prices.**

**Source:** CPM Group, Bloomberg

It can be argued the increases in the NYMEX settlement prices had a more powerful effect on purchasers of physical metal during the period of October 17, 2007 through June 6, 2008 than either before or after, given the increased price correlation.

## **VI. Methodology for Estimating National Metals Accounts for the Period of October 17, 2007 through June 6, 2008**

As previously discussed, there is a paucity of concrete statistics and information on the volumes of supply and demand for most commodities. Few statistics are gathered by government agencies and other entities on how much of a given commodity is being produced, in the case of metals from mining operations, imported ores and unrefined materials, and scrap recovered from either manufacturing operations or end-of-life recycling of metals-containing products.

So, too, there is little information collected on the amount of commodities that are consumed or bought by investors, let alone the individual industries using these commodities. As one example, most people do not realize the U.S. government, and others, fail to collect data and estimate demands for even petroleum, which is a strategically and economically important commodity. Thus United States demand data for petroleum is derived by the Department of Energy as a calculation based on imports, production, exports, and shifts in reported inventories.

The data for precious metals, including platinum and palladium, are even scarcer than for other commodities such as oil and copper. People and companies buying, selling, recovering metal from scrap, using it in manufactured products, or investing in platinum and palladium are not required to either gather or disclose statistics and information on their precious metals activities.

In this situation, accepted procedure in the industry is to derive estimates through a combination of creating a “National Account” for a given commodity and then seeking to populate it through estimates of individual industry demand patterns collected via anecdotal information and interviews with market participants. This is the standard commodities research procedure used

by the Department of Energy in energy commodities, the Department of Agriculture in agricultural commodities, and the U.S. Geological Survey for metals and non-metallic minerals.

This same procedure is used by CPM Group in its estimates of the platinum, palladium, and other markets.

A national metals account is an account of a country's total supply and demand of metal based on what little information is known. These accounts allow analysts to develop a broad idea of how much of given commodities (in this case platinum and palladium) are entering a national market (in this case the United States).

Net imports are calculated by subtracting gross exports of refined metal from gross imports (note that if the result is negative, it's a net export). This figure is added to statistics on domestically refined mine production and domestically refined secondary supply from scrapped products. This formula gives a Net Supply total, representing the amount of metal entering the U.S. market. An assumption is made that someone buys, uses, or holds this metal. Thus, Net Supply equals Apparent Demand.

Obviously not all of the metal becoming available within the United States is being consumed or used in fabricated products, so some of the metal showing up in Net Supply and Apparent Demand is being held in metal form in inventories, either by investors who want to hold metal in their portfolio or by market intermediaries willing to hold working inventories. Apparent Demand captures all sources of demand for the metal, which includes demand from industry, jewelry fabricators, and investors.

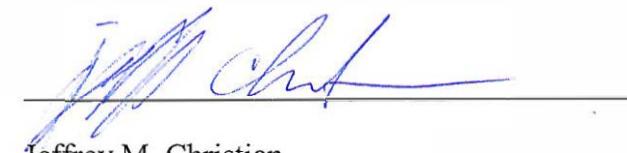
CPM Group then subtracts its proprietary estimates for fabrication demand, which is the sum of industry and jewelry demand, from Apparent Demand, yielding an Implied Net Investment Demand figure. Tables and charts in this report show CPM Group's annual National Metals Account balances for platinum and palladium.

Additionally, there are tables showing the pro-rated national metal accounts for the period of October 17, 2007 through June 6, 2008, based on various monthly and annual statistics to yield an estimate for implied investment demand during this period. The following list shows the available frequency of data for each component of the national metals account:

- Trade data, monthly. CPM Group uses data provided by Global Trade Information Services (GTIS), a private sector company that collates U.S. government trade data. The U.S. Census Bureau also collects and reports data on imports and exports, but does not provide data series as specific and differentiated as that available from GTIS.
- Mine production, monthly (although annual data was used in this report)
- Secondary supply, annual
- Fabrication demand, annual

Annual data was pro-rated by the number of days applicable to the period of October 17, 2007 through June 6, 2008. Monthly data was prorated by the number of days in partial months.

The platinum and palladium U.S. markets tables included in this report are pro-rated national metals accounts, meant to capture the market's supply and demand volumes during the period of October 17, 2007 through June 6, 2008. Typically, national metals accounts illustrate metal ownership on the last day of a given year. National metals accounts use published trade data, published mine production data, estimated secondary supply data, and estimated fabrication demand data in order to yield a figure representing the implied investment demand for the metal within a country. The reason this final data point cannot be estimated as readily and reliably is because it is the most proprietary set of data within the entire account.



Jeffrey M. Christian  
Managing Partner, CPM Group

## U.S. Platinum Market Estimates

### Historical U.S. Platinum Demand

Troy Ounces

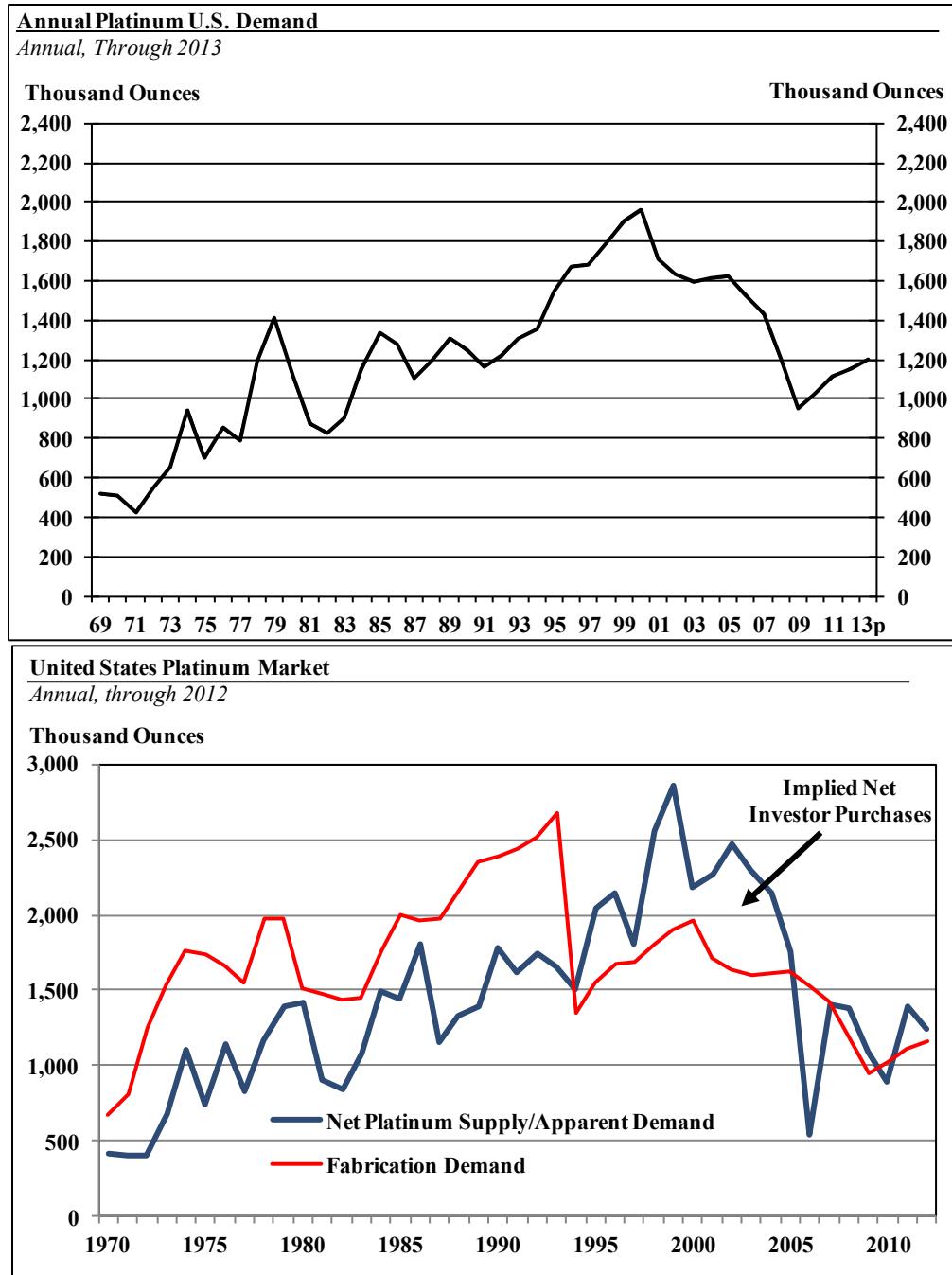
Year	Automotive	Petroleum	Chemical	Electronics	Glass	Dental and Medical	Jewelry and Decorative	Misc.	Total	Percent Change in Total
1955	-	-	348,088	48,683	-	12,304	12,860	5,297	427,232	
1956	-	-	320,476	53,872	-	12,436	16,075	5,115	407,974	-4.5%
1957	-	-	243,226	52,574	-	11,514	22,505	6,567	336,386	-17.5%
1958	-	-	148,276	53,553	-	14,414	41,796	5,727	263,766	-21.6%
1959	-	44,327	80,107	84,837	82,997	15,379	54,656	5,747	368,050	39.5%
1960	-	35,645	71,253	106,903	59,390	15,898	57,871	2,828	349,788	-5.0%
1961	-	37,742	72,016	87,419	35,234	16,487	64,301	4,003	317,202	-9.3%
1962	-	13,160	87,822	100,569	45,530	22,601	77,162	6,017	352,861	11.2%
1963	-	40,721	156,427	110,576	57,919	18,894	115,743	6,844	507,124	43.7%
1964	-	41,071	137,248	103,584	49,680	19,376	90,022	3,195	444,176	-12.4%
1965	-	82,138	131,599	106,808	19,846	26,511	83,592	10,084	460,578	3.7%
1966	-	235,098	191,429	117,156	90,556	24,296	86,807	24,846	770,188	67.2%
1967	-	122,511	159,384	99,686	45,150	24,630	115,743	26,112	593,216	-23.0%
1968	-	89,629	157,677	117,256	47,935	24,903	102,882	31,150	571,432	-3.7%
1969	-	62,438	175,436	112,589	63,350	22,266	138,248	47,174	621,501	8.8%
1970	-	144,657	148,289	103,318	46,687	18,302	199,334	18,555	679,142	9.3%
1971	-	137,396	135,112	51,940	40,703	23,097	398,669	19,859	806,776	18.8%
1972	-	98,847	225,895	92,381	26,970	30,462	729,821	50,089	1,254,465	55.5%
1973	-	123,649	238,974	117,352	72,543	27,887	897,005	55,695	1,533,105	22.2%
1974	350,000	139,519	215,663	98,608	74,398	25,513	839,133	17,020	1,759,854	14.8%
1975	273,000	107,988	148,813	73,624	33,813	17,097	1,060,973	21,318	1,736,626	-1.3%
1976	480,965	59,103	83,560	89,319	41,683	26,858	836,000	46,246	1,663,734	-4.2%
1977	354,338	74,772	84,414	90,217	59,995	27,083	794,000	64,350	1,549,169	-6.9%
1978	597,538	108,365	149,696	106,422	98,094	44,139	804,000	66,336	1,974,590	27.5%
1979	803,229	170,013	98,600	115,775	88,594	27,053	592,000	77,949	1,973,213	-0.1%
1980	517,143	144,039	118,956	150,060	52,897	25,831	440,000	58,307	1,507,233	-23.6%
1981	446,677	88,314	78,134	111,697	29,272	18,739	624,000	72,202	1,469,035	-2.5%
1982	525,000	21,576	63,601	89,994	20,595	22,806	630,000	67,805	1,441,377	-1.9%
1983	600,000	38,030	75,000	74,716	14,903	16,744	553,000	75,000	1,447,393	0.4%
1984	822,000	28,045	80,000	98,925	12,184	18,644	624,000	82,000	1,765,798	22.0%
1985	911,000	28,771	95,000	115,840	20,651	24,514	675,000	125,000	1,995,776	13.0%
1986	890,000	30,566	97,000	103,506	15,793	22,619	691,000	110,000	1,960,484	-1.8%
1987	800,000	23,773	81,000	108,000	9,157	15,387	868,000	65,000	1,970,317	0.5%
1988	775,000	34,466	122,000	112,335	21,895	18,680	987,000	96,000	2,167,376	10.0%
1989	790,000	91,919	97,000	125,195	36,330	20,319	1,061,000	135,000	2,356,763	8.7%
1990	720,000	105,261	86,000	125,613	13,857	22,087	1,150,000	160,000	2,382,818	1.1%
1991	700,000	126,931	48,000	126,931	4,115	19,500	1,290,000	125,000	2,440,477	2.4%
1992	730,000	105,000	75,000	126,000	11,574	20,576	1,318,000	130,000	2,516,150	3.1%
1993	830,000	100,000	81,000	129,000	7,500	24,000	1,400,000	105,000	2,676,500	6.4%
1994	880,000	106,000	63,000	139,000	8,000	25,000	34,000	100,000	1,355,000	-49.4%
1995	1,000,000	110,000	75,000	145,000	17,000	25,000	63,000	110,000	1,545,000	14.0%
1996	1,100,000	113,000	88,000	146,000	17,000	25,000	70,000	115,000	1,674,000	8.3%
1997	1,050,000	109,000	92,000	159,000	17,000	27,000	100,000	130,000	1,684,000	0.6%
1998	1,100,000	109,000	94,000	167,000	17,000	29,000	140,000	140,000	1,796,000	6.7%
1999	1,175,000	113,000	96,000	175,000	19,000	30,000	150,000	145,000	1,903,000	6.0%
2000	1,200,000	117,000	100,000	140,000	20,000	31,000	200,000	155,000	1,963,000	3.2%
2001	1,100,000	115,000	80,000	108,000	30,000	32,000	120,000	125,000	1,710,000	-12.9%
2002	1,000,000	120,000	100,000	95,000	20,000	32,000	130,000	135,000	1,632,000	-4.6%
2003	975,000	122,000	103,000	90,000	18,000	32,000	120,000	135,000	1,595,000	-2.3%
2004	1,000,000	125,000	107,000	85,000	20,000	33,000	100,000	142,000	1,612,000	1.1%
2005	1,010,000	130,000	110,000	85,000	20,000	33,000	80,000	155,000	1,623,000	0.7%
2006	920,000	132,000	112,000	85,000	23,000	34,000	75,000	150,000	1,531,000	-5.7%
2007	850,000	135,000	115,000	80,000	23,500	35,000	62,000	130,000	1,430,500	-6.6%
2008	620,000	150,000	125,000	60,000	24,000	35,750	59,000	132,000	1,205,750	-15.7%
2009	420,000	135,000	112,000	45,000	20,000	32,000	60,000	128,000	952,000	-21.0%
2010	475,000	140,000	130,000	35,000	23,000	31,000	65,000	131,000	1,030,000	8.2%
2011	546,250	145,000	135,000	36,000	25,000	28,000	60,000	135,000	1,110,250	7.8%
2012	589,950	147,000	136,000	37,000	26,000	25,000	62,000	135,000	1,157,950	4.3%
2013p	637,146	147,000	136,000	35,000	25,000	25,000	60,000	135,000	1,200,146	3.6%

Notes: Petroleum and glass industry demand was included in chemical industry figures prior to 1959.

Estimates for 1985 and subsequent years for the automotive and some other industries are

CPM Group estimates based on Bureau of Mines statistics prior to revisions made in 1987.

Sources: U.S. Bureau of Mines, CPM Group.

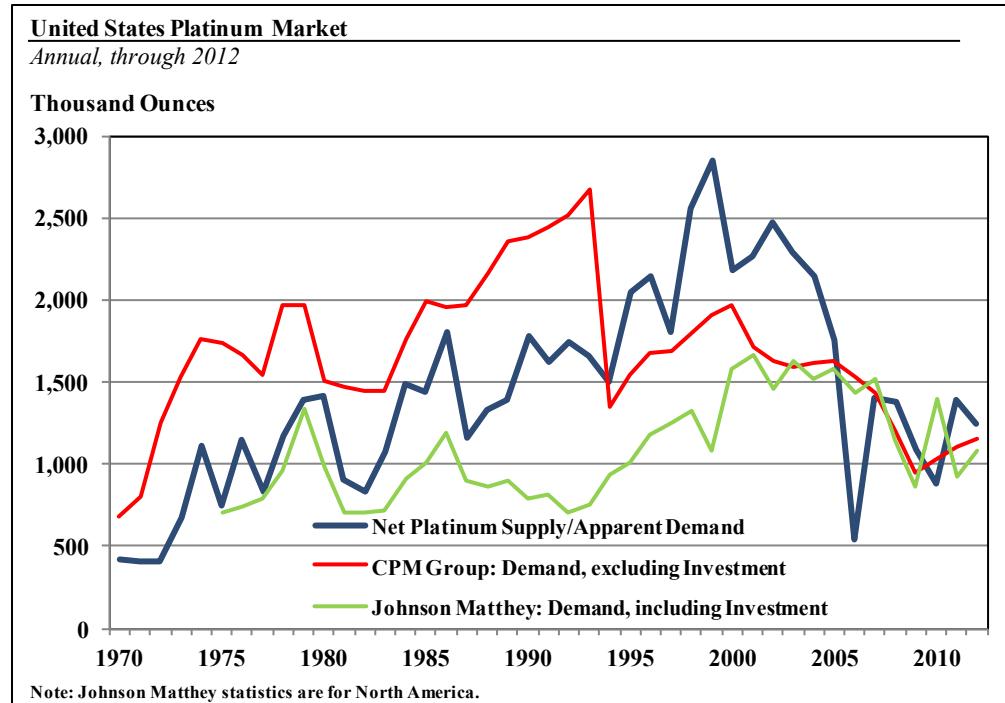


**Platinum Fabrication Demand Statistics - Comparison Table****Thousand Troy Ounces**

<u>Year</u>	<u>CPM Group</u>	<u>Johnson Matthey</u>	<u>Difference</u>
<b>1970</b>	679		N/A
<b>1971</b>	807		N/A
<b>1972</b>	1,254		N/A
<b>1973</b>	1,533		N/A
<b>1974</b>	1,760		N/A
<b>1975</b>	1,737	700	1,037
<b>1976</b>	1,664	740	924
<b>1977</b>	1,549	790	759
<b>1978</b>	1,975	960	1,015
<b>1979</b>	1,973	1,340	633
<b>1980</b>	1,507	980	527
<b>1981</b>	1,469	700	769
<b>1982</b>	1,441	710	731
<b>1983</b>	1,447	720	727
<b>1984</b>	1,766	910	856
<b>1985</b>	1,996	1,010	986
<b>1986</b>	1,960	1,190	770
<b>1987</b>	1,970	900	1,070
<b>1988</b>	2,167	865	1,302
<b>1989</b>	2,357	895	1,462
<b>1990</b>	2,383	790	1,593
<b>1991</b>	2,440	815	1,625
<b>1992</b>	2,516	705	1,811
<b>1993</b>	2,677	760	1,917
<b>1994</b>	1,355	940	415
<b>1995</b>	1,545	1,015	530
<b>1996</b>	1,674	1,180	494
<b>1997</b>	1,684	1,250	434
<b>1998</b>	1,796	1,325	471
<b>1999</b>	1,903	1,080	823
<b>2000</b>	1,963	1,575	388
<b>2001</b>	1,710	1,665	45
<b>2002</b>	1,632	1,460	172
<b>2003</b>	1,595	1,625	-30
<b>2004</b>	1,612	1,525	87
<b>2005</b>	1,623	1,585	38
<b>2006</b>	1,531	1,440	91
<b>2007</b>	1,431	1,525	-95
<b>2008</b>	1,206	1,145	61
<b>2009</b>	952	860	92
<b>2010</b>	1,030	1,400	-370
<b>2011</b>	1,110	930	180
<b>2012</b>	1,158	1,080	78
<b>Cumulative</b>			<b>24,419</b>

**Notes:** Johnson Matthey statistics are for North America. Johnson Matthey statistics include investment while CPM Group statistics exclude investment. 'Difference' is CPM Group statistics less Johnson Matthey statistics.

**Sources:** CPM Group, Johnson Matthey



**U.S. Platinum Market***Troy Ounces*

Class Period: 17 October 2007 - 6 June 2008

	<u>2007</u>	<u>2008</u>	<u>Total</u>
<b>Gross Imports</b>	<b>364,487</b>	<b>793,742</b>	<b>1,158,229</b>
<b>Gross Exports</b>	<b>273,800</b>	<b>380,329.8</b>	<b>654,130</b>
<b>Net Trade</b>	<b>90,687</b>	<b>413,413</b>	<b>504,099</b>
 <b>Mine Production</b>	 <b>42,985</b>	 <b>101,323</b>	 <b>144,309</b>
<b>Secondary Supply</b>	<b>125,863</b>	<b>245,158</b>	<b>371,021</b>
 <b>Net Supply/Apparent Demand</b>	 <b>259,535</b>	 <b>759,894</b>	 <b>1,019,429</b>
 <b>Fabrication Demand</b>	 <b>297,858</b>	 <b>520,515</b>	 <b>818,373</b>
 <b>Implied Net Investment</b>			
<b>Demand</b>	<b>-38,322</b>	<b>239,379</b>	<b>201,056</b>
 <b>% of Year</b>	 <b>-15.5%</b>	 <b>55.1%</b>	 <b>29.5%</b>

**Reported Investment Purchases****U.S. Mint**

American Eagle Bullion Coin	3,234	1,160	4,394
American Eagle Proof Coin	2,030	4,492	6,521
<b>Total</b>	<b>5,263</b>	<b>5,652</b>	<b>10,915</b>
 <b>% of Implied Net Investment</b>			
<b>Demand</b>	<b>-13.7%</b>	<b>2.4%</b>	<b>5.4%</b>

**Notes:** Monthly and annual data used to estimate metal flows during the class action period are prorated. The class period, which adds up to 234 days, represents 32.0% of the cumulative number of days in 2007 and 2008.

**Source:** GTIS, USGS, U.S. Mint, CPM Group

## U.S. Palladium Market Estimates

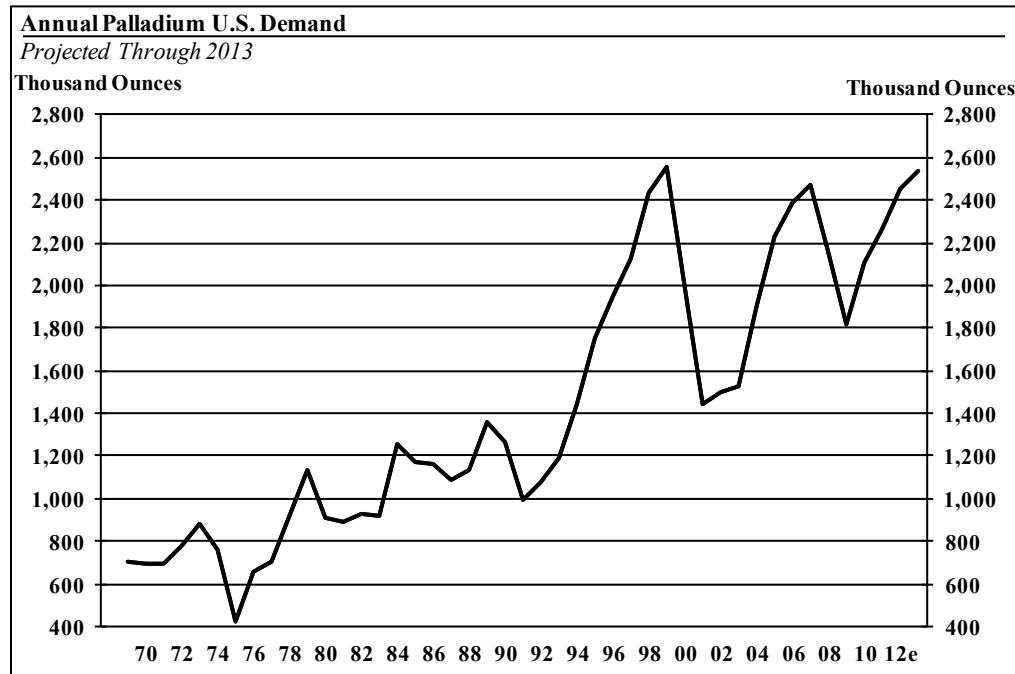
### Historical U.S. Palladium Demand

Troy Ounces										Percent Change in Total
Year	Electronics	Dental and Medical	Automotive	Chemical	Petroleum	Jewelry and Decorative	Glass	Other	Total	
1955	250,714	-	36,246	-	28,673	-	7,221	322,854		
1956	304,990	-	31,449	-	25,447	-	7,761	369,647	14.5%	
1957	285,576	-	25,936	-	21,257	-	5,387	338,156	-8.5%	
1958	238,815	-	93,215	-	25,129	-	1,802	358,961	6.2%	
1959	374,080	-	42,394	603	34,113	-	5,590	456,780	27.3%	
1960	271,560	-	73,854	5,300	23,336	6	1,552	375,608	-17.8%	
1961	353,010	-	90,533	449	14,354	5	2,461	460,812	22.7%	
1962	327,788	-	110,518	961	12,975	124	12,595	464,961	0.9%	
1963	331,868	-	118,757	16,008	13,880	20	3,054	483,587	4.0%	
1964	350,889	-	117,102	41,887	20,886	110	10,665	541,539	12.0%	
1965	430,384	-	156,796	37,001	18,203	1,402	23,107	666,893	23.1%	
1966	531,545	-	221,559	28,760	32,215	1,011	12,020	827,110	24.0%	
1967	324,684	-	192,011	3,506	18,676	301	25,878	565,056	-31.7%	
1968	329,012	-	228,318	22,683	17,797	10	62,023	659,843	16.8%	
1969	430,258	-	214,508	1,337	21,837	3,891	34,581	706,412	7.1%	
1970	429,032	-	184,618	15,494	17,329	21,147	24,140	691,760	-2.1%	
1971	431,505	-	218,651	2,916	18,752	237	26,451	698,512	1.0%	
1972	425,081	-	292,710	14,499	19,375	2,250	27,835	781,750	11.9%	
1973	524,056	-	259,959	3,761	23,052	1,439	65,157	877,424	12.2%	
1974	390,237	150,000	163,205	14,877	21,701	9,549	12,420	761,989	-13.2%	
1975	132,247	97,000	142,975	2,255	23,026	17,633	11,942	427,078	-44.0%	
1976	152,312	139,000	194,496	128,229	7,291	5,700	2,989	26,766	656,783	53.8%
1977	223,748	112,000	125,010	161,234	8,507	15,567	907	53,023	699,996	6.6%
1978	286,574	206,000	198,809	146,352	18,909	12,570	2,757	45,645	917,616	31.1%
1979	392,372	244,000	222,156	199,743	24,588	11,766	1,729	36,640	1,132,994	23.5%
1980	312,778	244,000	176,518	119,905	22,013	13,491	1,155	21,828	911,688	-19.5%
1981	345,365	255,000	129,214	90,272	20,877	14,772	2,922	30,650	889,072	-2.5%
1982	312,372	311,000	118,445	128,778	20,845	7,866	213	27,031	926,550	4.2%
1983	250,059	344,000	172,050	39,892	49,870	6,711	146	59,582	922,310	-0.5%
1984	389,070	347,000	286,000	78,600	92,134	5,884	10	57,134	1,255,832	36.2%
1985	300,677	339,000	295,000	63,236	80,940	7,982	-	87,970	1,174,805	-6.5%
1986	316,390	402,000	270,000	44,485	60,959	6,521	-	61,182	1,161,537	-1.1%
1987	318,301	334,000	250,000	34,682	41,344	7,099	-	100,239	1,085,665	-6.5%
1988	419,534	213,000	245,000	65,000	46,233	6,302	354	133,618	1,129,041	4.0%
1989	557,879	271,000	255,000	61,826	81,759	5,755	5,819	121,723	1,360,761	20.5%
1990	578,616	197,000	230,000	76,165	47,840	5,691	11,124	116,128	1,262,564	7.2%
1991	414,840	157,000	219,000	46,779	35,402	10,610	-	107,448	991,078	-21.5%
1992	424,293	166,000	252,000	61,569	24,113	30,000	4,051	115,228	1,077,254	8.7%
1993	475,000	183,000	290,000	70,000	24,000	40,000	4,500	105,000	1,191,500	10.6%
1994	523,000	193,000	460,000	77,000	28,000	42,000	-	115,000	1,438,000	20.7%
1995	586,000	198,000	700,000	77,000	28,000	46,000	-	118,000	1,753,000	21.9%
1996	568,000	202,000	900,000	79,000	29,000	48,000	-	120,000	1,946,000	11.0%
1997	643,000	205,000	1,000,000	78,000	28,000	52,000	-	122,000	2,128,000	9.4%
1998	650,000	205,000	1,300,000	80,000	26,000	52,000	-	122,000	2,435,000	14.4%
1999	680,000	195,000	1,400,000	81,000	25,000	54,000	-	118,000	2,553,000	4.8%
2000	620,000	120,000	1,000,000	68,774	21,226	45,000	-	115,000	1,990,000	-22.1%
2001	175,000	118,000	900,000	69,000	23,000	46,000	-	115,000	1,446,000	-27.3%
2002	202,000	122,000	910,000	70,000	24,000	48,000	-	120,000	1,496,000	3.5%
2003	210,000	150,000	900,000	72,000	25,000	48,000	-	120,000	1,525,000	1.9%
2004	240,000	190,000	1,200,000	76,000	26,000	49,000	-	122,000	1,903,000	24.8%
2005	270,000	225,000	1,450,000	79,500	27,500	50,000	-	125,000	2,227,000	17.0%
2006	300,000	235,000	1,550,000	85,500	29,500	60,000	-	130,000	2,390,000	7.3%
2007	310,000	240,000	1,600,000	89,250	35,000	65,000	-	133,000	2,472,250	3.4%
2008	280,000	240,000	1,300,000	94,000	37,500	68,000	-	135,000	2,154,500	-12.9%
2009	235,000	245,000	1,000,000	100,000	40,000	75,000	-	120,000	1,815,000	-15.8%
2010	245,000	244,000	1,300,000	83,000	32,000	76,000	-	125,000	2,105,000	16.0%
2011	247,000	240,000	1,450,000	93,000	37,000	72,000	-	130,000	2,269,000	7.8%
2012e	245,000	235,000	1,631,250	97,000	40,000	70,000	-	132,000	2,450,250	8.0%
2013p	240,000	230,000	1,720,969	99,124	40,876	69,000	-	134,000	2,533,969	3.4%

Notes: Petroleum consumption was included in chemical prior to 1959;

glass industry was included in chemical prior to 1960.

Source: U.S. Bureau of Mines, CPM Group.



**United States' Palladium National Metal Account**

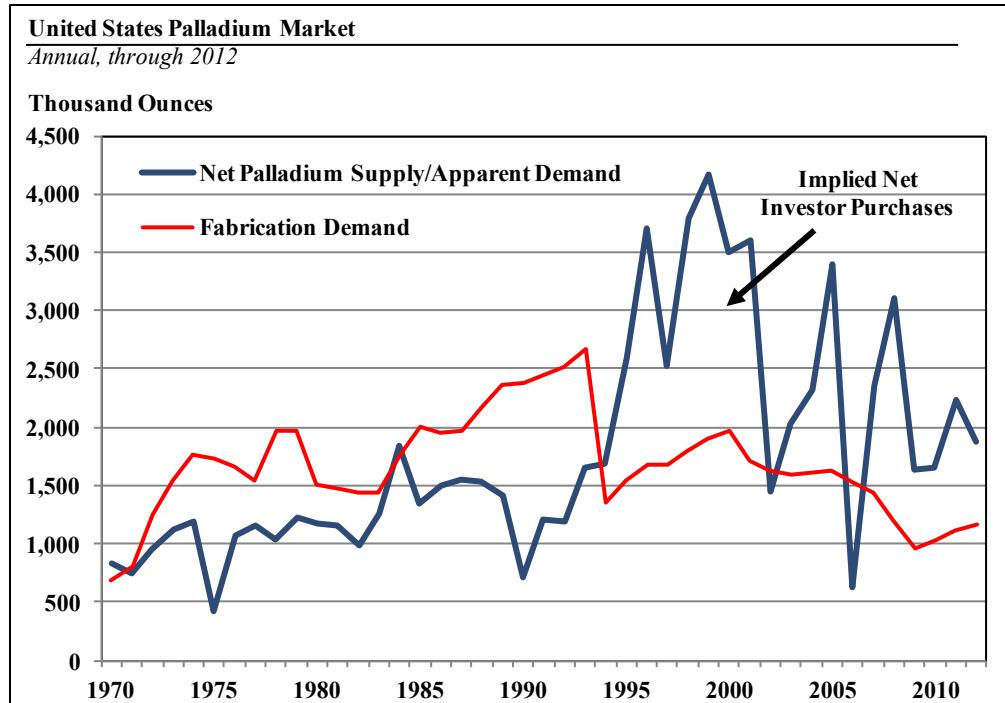
Thousand Troy Ounces

Year	Trade			Mine Production	Secondary Recovery	Net Palladium		Implied	
	Imports	Exports	Net Trade			Supply/ Apparent Demand	Demand	Fabrication	Investment
1970	774	-143	631	--	209	839	679	160	
1971	663	-84	580	--	161	741	807	-66	
1972	902	-122	780	--	163	943	1,254	-311	
1973	1,154	-188	966	--	150	1,116	1,533	-417	
1974	1,338	-361	977	--	213	1,190	1,760	-570	
1975	554	-283	271	--	150	420	1,737	-1,316	
1976	1,123	-187	937	5	135	1,077	1,664	-587	
1977	1,152	-137	1,014	5	134	1,153	1,549	-396	
1978	1,224	-357	867	8	166	1,042	1,975	-933	
1979	1,504	-503	1,002	7	221	1,229	1,973	-744	
1980	1,317	-302	1,014	2	162	1,179	1,507	-328	
1981	1,231	-260	971	6	186	1,162	1,469	-307	
1982	1,100	-263	837	8	139	984	1,441	-457	
1983	1,332	-261	1,071	7	178	1,256	1,447	-192	
1984	1,954	-378	1,576	18	243	1,837	1,766	72	
1985	1,481	-339	1,142	3	201	1,347	1,996	-649	
1986	1,502	-278	1,224	4	277	1,505	1,960	-455	
1987	1,681	-341	1,339	92	120	1,552	1,970	-419	
1988	1,700	-396	1,304	120	114	1,538	2,167	-630	
1989	1,644	-472	1,172	156	86	1,414	2,357	-943	
1990	615	-211	403	191	118	712	2,383	-1,671	
1991	1,231	-320	911	170	121	1,202	2,440	-1,238	
1992	1,315	-412	903	179	109	1,191	2,516	-1,326	
1993	1,897	-573	1,324	224	111	1,658	2,677	-1,018	
1994	2,060	-702	1,358	213	108	1,679	1,355	324	
1995	3,037	-734	2,304	175	114	2,593	1,545	1,048	
1996	4,017	-650	3,367	202	130	3,699	1,674	2,025	
1997	3,539	-1,396	2,143	277	114	2,533	1,684	849	
1998	5,132	-1,793	3,339	347	100	3,786	1,796	1,990	
1999	5,338	-1,601	3,738	321	102	4,160	1,903	2,257	
2000	4,940	-1,896	3,044	337	116	3,496	1,963	1,533	
2001	4,649	-1,589	3,060	411	132	3,603	1,710	1,893	
2002	3,042	-2,254	788	482	177	1,446	1,632	-186	
2003	2,679	-1,306	1,374	460	203	2,037	1,595	442	
2004	3,403	-1,768	1,635	450	235	2,320	1,612	708	
2005	3,997	-1,329	2,667	438	299	3,404	1,623	1,781	
2006	3,246	-3,443	-198	473	354	629	1,531	-902	
2007	3,257	-1,745	1,512	423	428	2,363	1,431	932	
2008	3,648	-1,433	2,215	394	493	3,102	1,206	1,896	
2009	2,004	-1,339	666	418	559	1,643	952	691	
2010	2,071	-1,421	650	382	614	1,645	1,030	615	
2011	2,800	-1,621	1,178	407	649	2,234	1,110	1,124	
2012	2,165	-1,373	792	404	674	1,870	1,158	712	
<b>Cumulative</b>						<b>76,532</b>	<b>4,994</b>		

**Notes:** Trade data refers only to HS code 711021 - "palladium, unwrought or powder" since 1990. Prior to 1990, USGS reported data is used, which includes waste and scrap material. Negative figure indicates metal leaving the country. Mine Production refers to metal content in concentrates, which are presumed to be refined domestically. 'Secondary Recovery' is USGS' published estimates of non toll-refined recovery in 1990.

Subsequent years are estimated by CPM Group.

Sources: United States Geological Survey, U.S. Bureau of Mines, GTIS, CPM Group



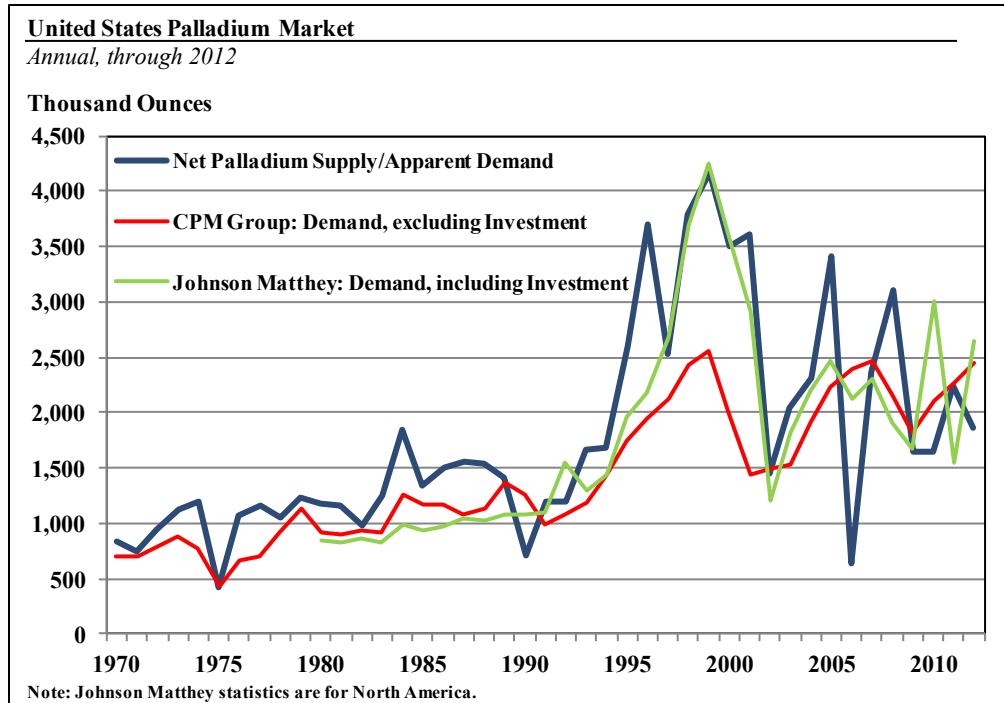
**Palladium Fabrication Demand Statistics - Comparison Table****Thousand Troy Ounces**

<u>Year</u>	<u>CPM Group</u>	<u>Johnson Matthey</u>	<u>Difference</u>
<b>1970</b>	692		N/A
<b>1971</b>	699		N/A
<b>1972</b>	782		N/A
<b>1973</b>	877		N/A
<b>1974</b>	762		N/A
<b>1975</b>	427		N/A
<b>1976</b>	657		N/A
<b>1977</b>	700		N/A
<b>1978</b>	918		N/A
<b>1979</b>	1,133		N/A
<b>1980</b>	912	840	72
<b>1981</b>	889	820	69
<b>1982</b>	927	860	67
<b>1983</b>	922	830	92
<b>1984</b>	1,256	990	266
<b>1985</b>	1,175	940	235
<b>1986</b>	1,162	965	197
<b>1987</b>	1,086	1,035	51
<b>1988</b>	1,129	1,020	109
<b>1989</b>	1,361	1,070	291
<b>1990</b>	1,263	1,080	183
<b>1991</b>	991	1,095	-104
<b>1992</b>	1,077	1,550	-473
<b>1993</b>	1,192	1,295	-104
<b>1994</b>	1,438	1,430	8
<b>1995</b>	1,753	1,960	-207
<b>1996</b>	1,946	2,185	-239
<b>1997</b>	2,128	2,675	-547
<b>1998</b>	2,435	3,690	-1,255
<b>1999</b>	2,553	4,255	-1,702
<b>2000</b>	1,990	3,600	-1,610
<b>2001</b>	1,446	2,915	-1,469
<b>2002</b>	1,496	1,195	301
<b>2003</b>	1,525	1,820	-295
<b>2004</b>	1,903	2,190	-287
<b>2005</b>	2,227	2,465	-238
<b>2006</b>	2,390	2,115	275
<b>2007</b>	2,472	2,295	177
<b>2008</b>	2,155	1,915	240
<b>2009</b>	1,815	1,670	145
<b>2010</b>	2,105	3,010	-905
<b>2011</b>	2,269	1,550	719
<b>2012</b>	2,450	2,650	-200
<b>Cumulative</b>			<b>-6,139</b>

include investment while CPM Group statistics exclude investment. 'Difference' is

CPM Group statistics less Johnson Matthey statistics.

Sources: CPM Group, Johnson Matthey



**U.S. Palladium Market***Troy Ounces*

for the Class Period:

**17 October 2007 - 6 June 2008**

	<u>2007</u>	<u>2008</u>	<u>Total</u>
<b>Gross Imports</b>	<b>679,733</b>	<b>1,467,487</b>	<b>2,147,220</b>
<b>Gross Exports</b>	<b>322,799</b>	<b>731292.6</b>	<b>1,054,091</b>
<b>Net Trade</b>	<b>356,934</b>	<b>736,194</b>	<b>1,093,128</b>
 <b>Mine Production</b>	 <b>88,077</b>	 <b>170,087</b>	 <b>258,164</b>
<b>Secondary Supply</b>	<b>163,068</b>	<b>389,186</b>	<b>552,254</b>
 <b>Net Supply/Apparent Demand</b>	 <b>608,079</b>	 <b>1,295,468</b>	 <b>1,903,547</b>
 <b>Fabrication Demand</b>	 <b>311,496</b>	 <b>658,333</b>	 <b>969,829</b>
 <b>Implied Net Investment Demand</b>	 <b>296,583</b>	 <b>637,134</b>	 <b>933,718</b>
 <b>% of Year</b>	 <b>24.3%</b>	 <b>32.1%</b>	 <b>29.1%</b>

**Notes:** Monthly and annual data used to estimate metal flows during the class action period are prorated. The class period, which adds up to 234 days, represents 32.0% of the cumulative number of days in 2007 and 2008.

**Source:** GTIS, USGS, CPM Group

## Platinum Prices: Summary Table

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### Correlation between Nymex Platinum Prices and Other Platinum Prices Over Select Periods

	Class Period	Long-Term Comparison
	17-October-2007 to 6-June-2008	1-February-2001 to 16-August-2013
<b>Johnson Matthey</b>	96%	87%
<b>BASF</b>	78%	75%
<b>London afternoon Fix</b>	75%	72%
<b>London morning Fix</b>	55%	51%

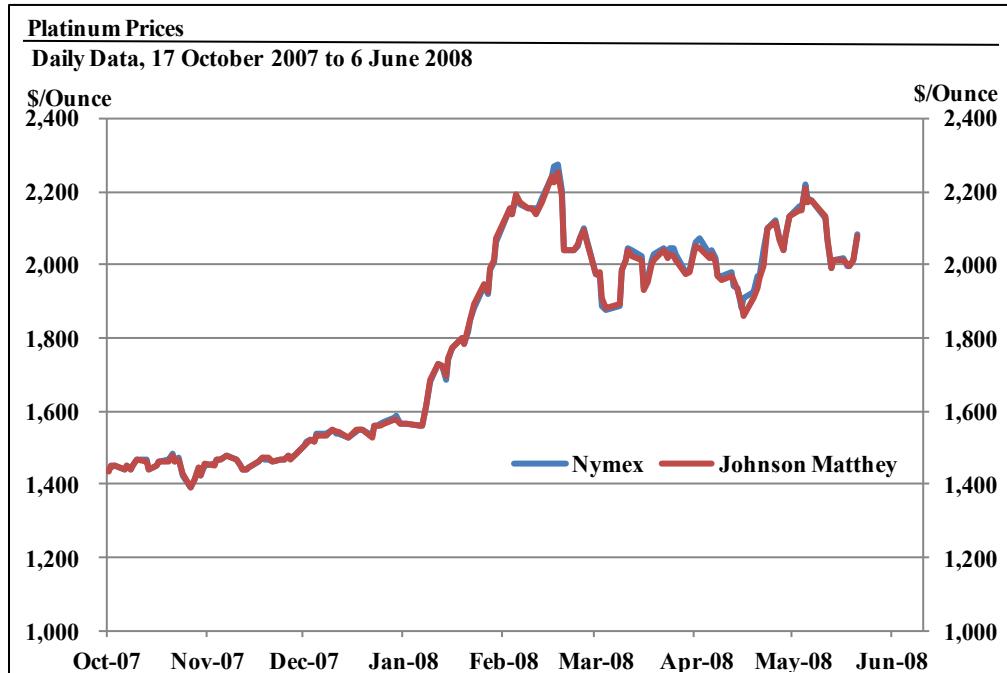
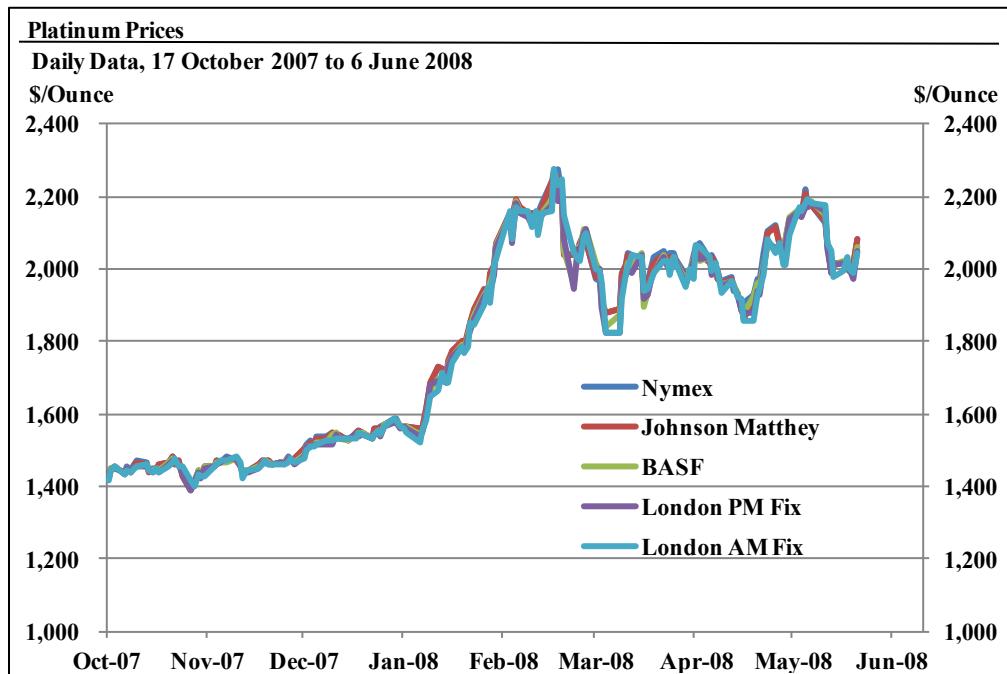
**Notes:** Correlations are between the daily changes in the Nymex platinum settlement price and the daily changes in the platinum price as quoted by Johnson Matthey, BASF, and the London Fix.

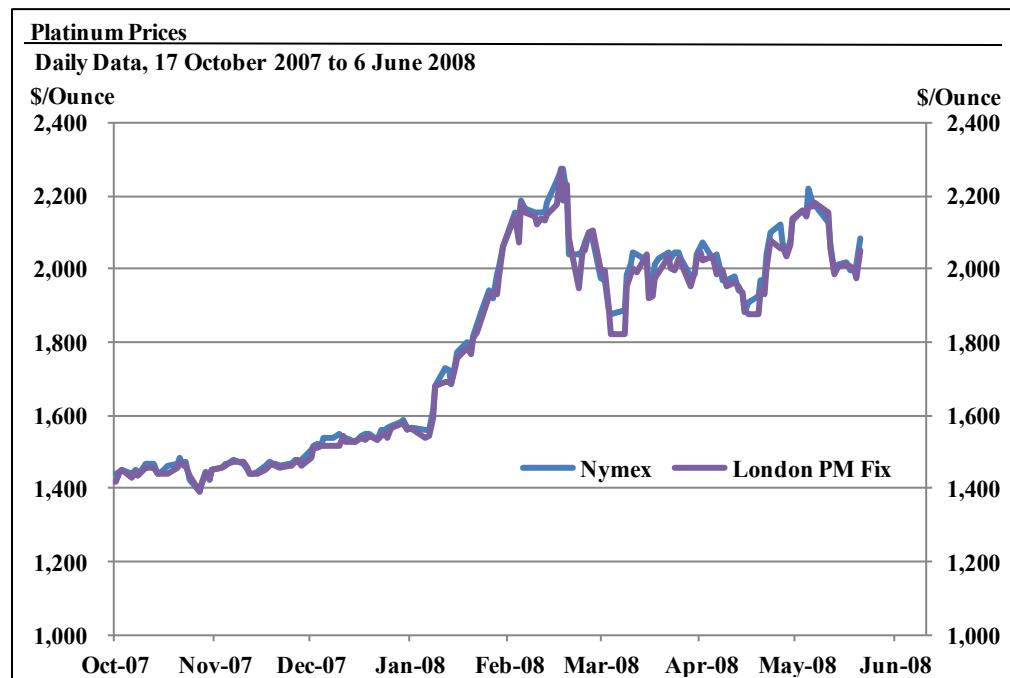
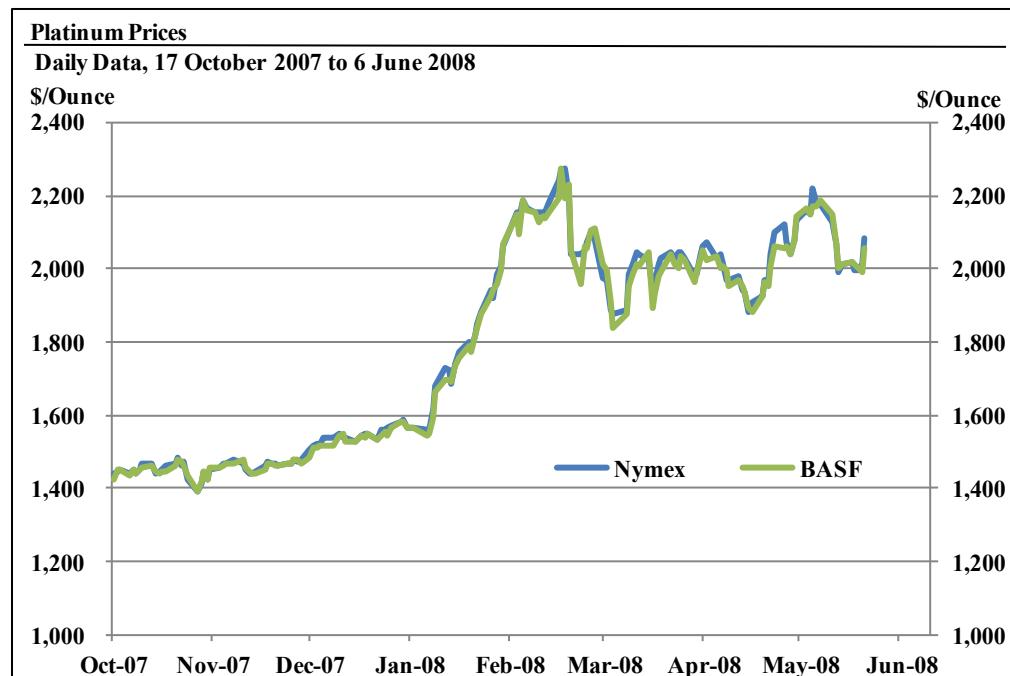
BASF prices are U.S. Engelhard Industrial Bullion prices.

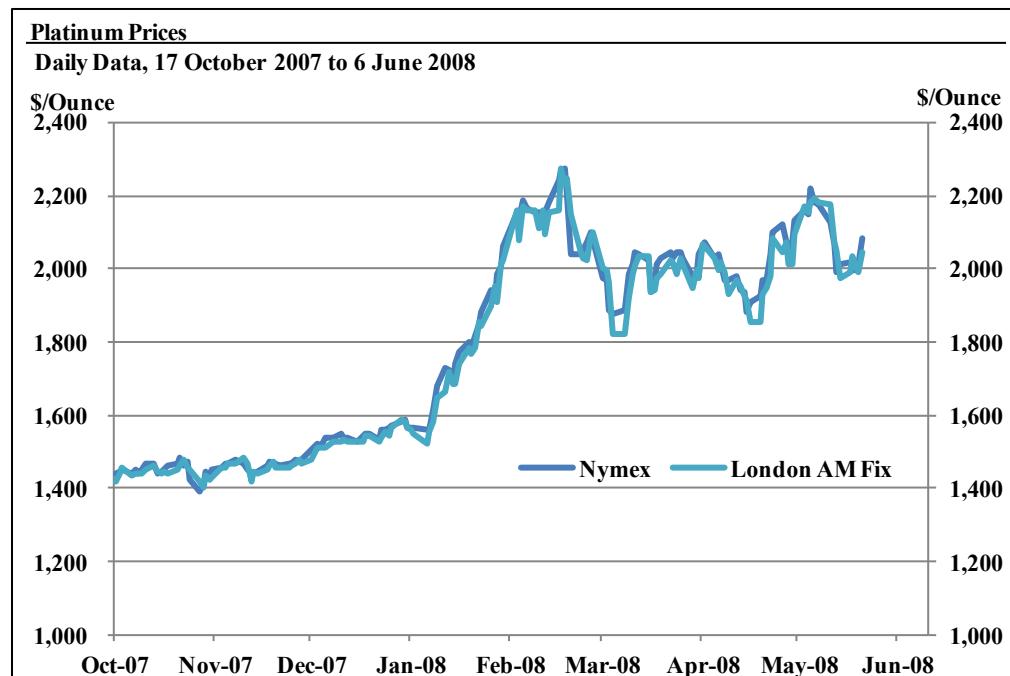
Sources: CPM Group, Bloomberg

## Platinum Prices: Charts for Period under Review

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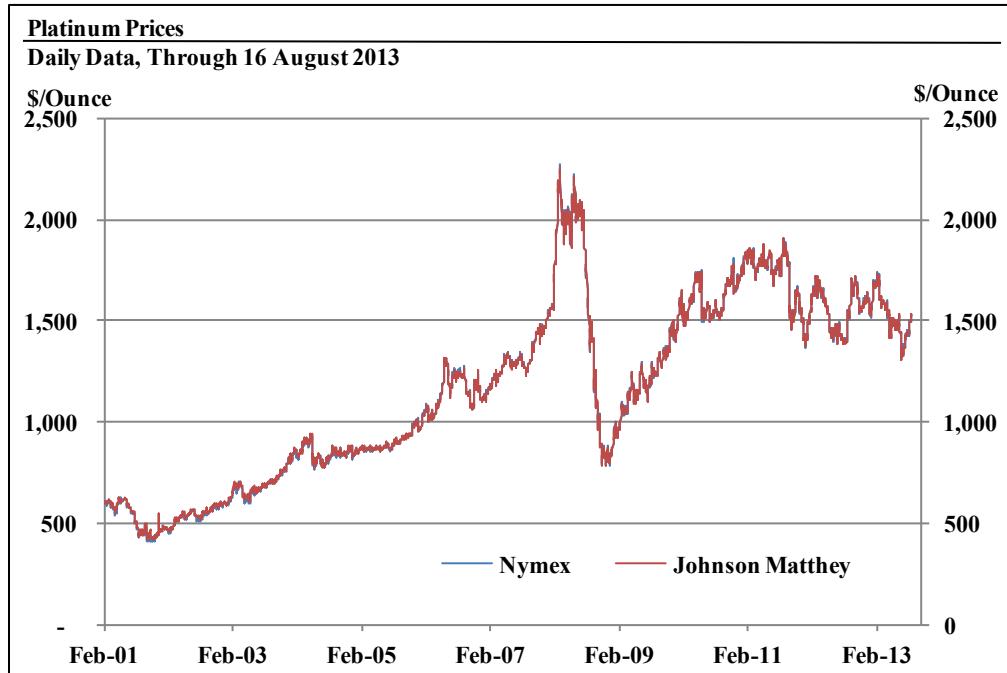
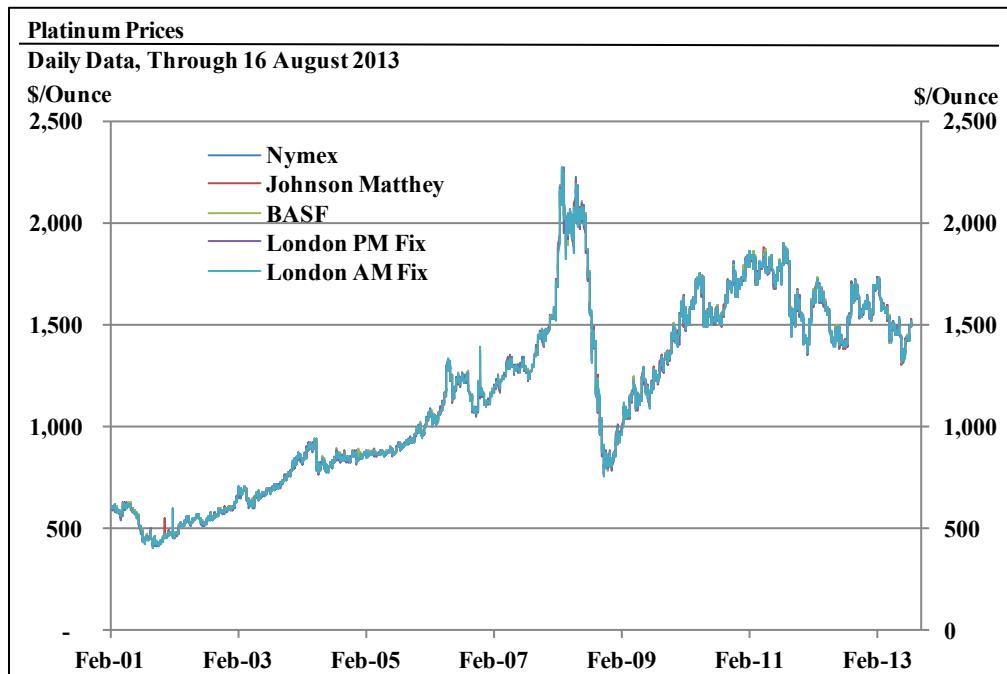


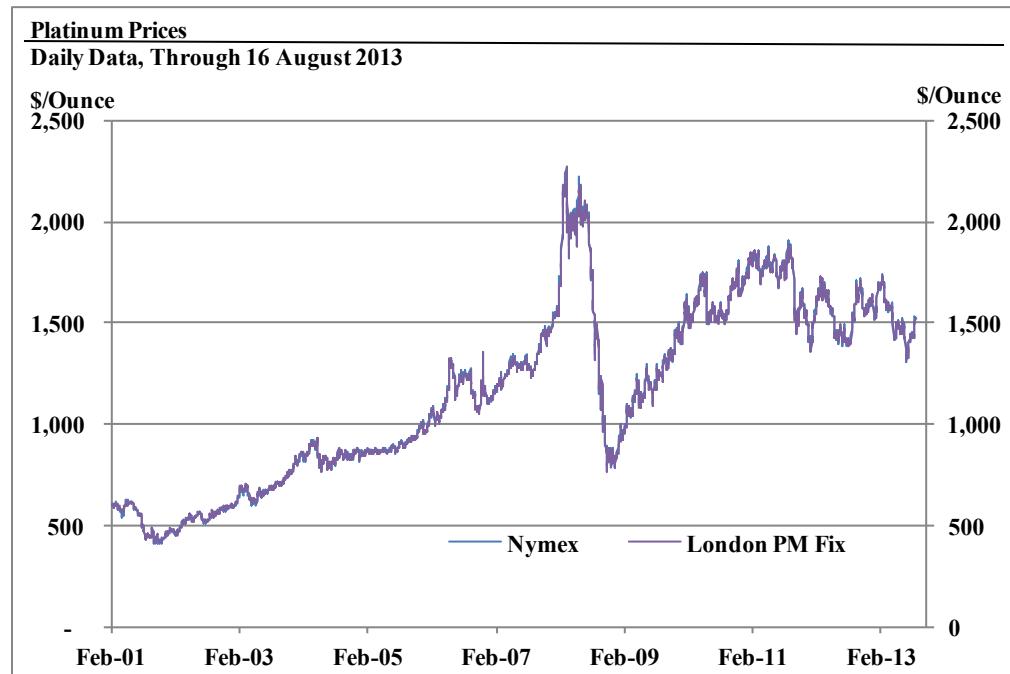
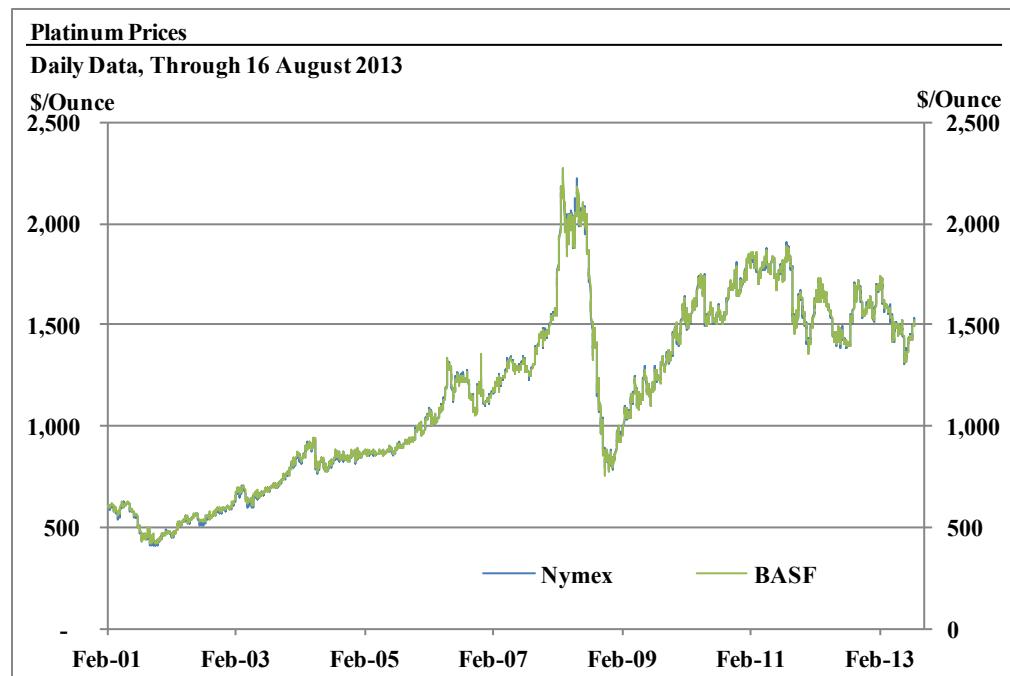


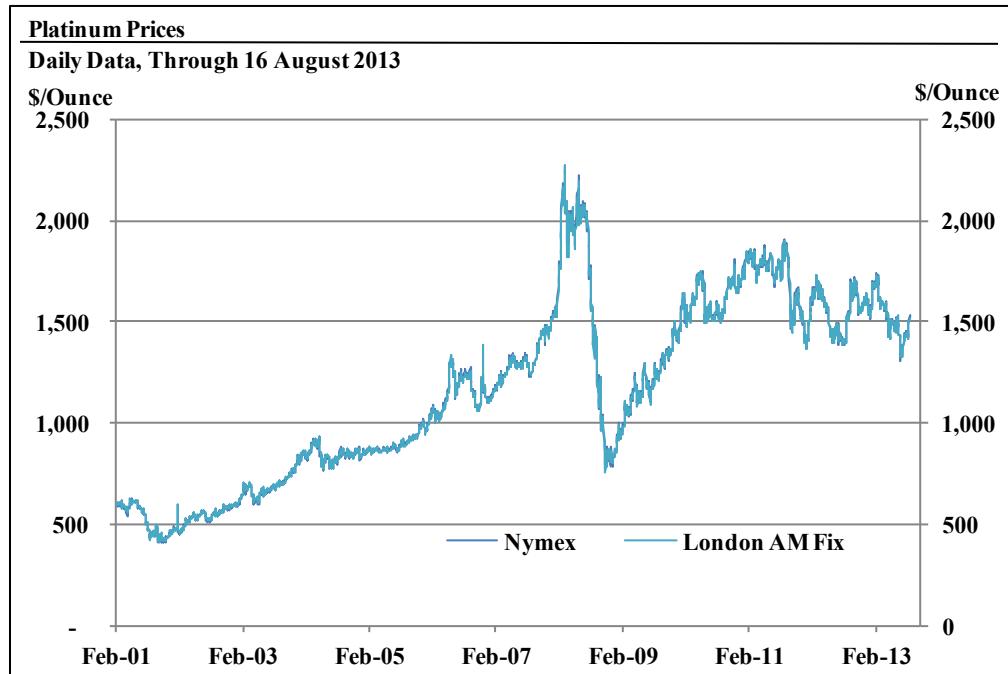


## Platinum Price Charts

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## Palladium Prices: Summary Table

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### Correlation between Nymex Palladium Prices and Other Palladium Prices Over Select Periods

	Class Period	Long-Term Comparison
	17-October-2007 to 6-June-2008	1-February-2001 to 16-August-2013
<b>Johnson Matthey</b>	91%	84%
<b>BASF</b>	70%	69%
<b>London afternoon Fix</b>	69%	67%
<b>London morning Fix</b>	52%	48%

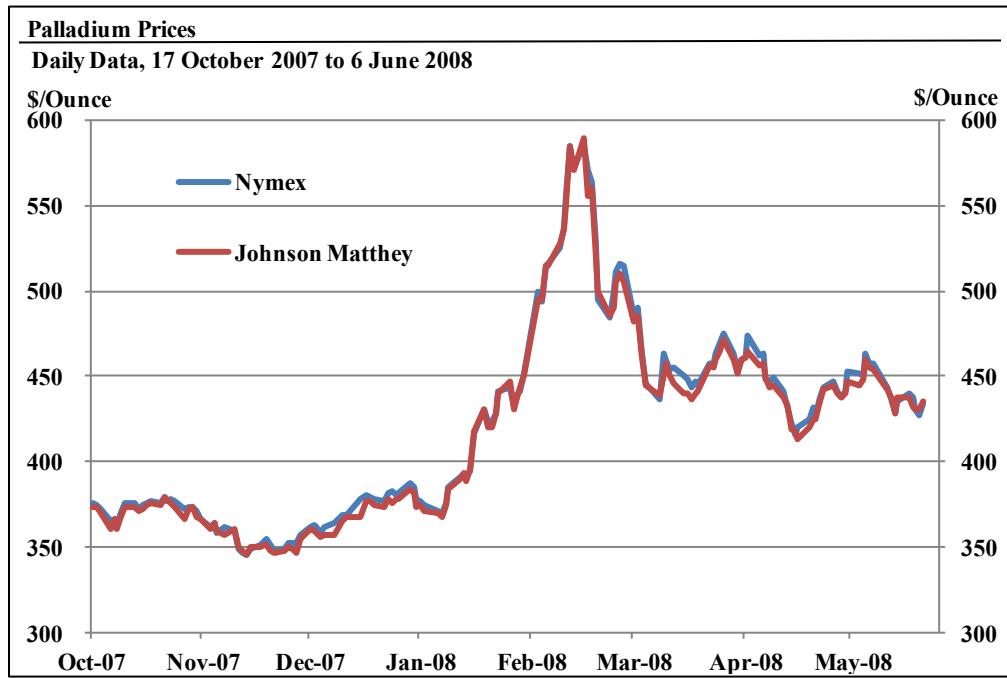
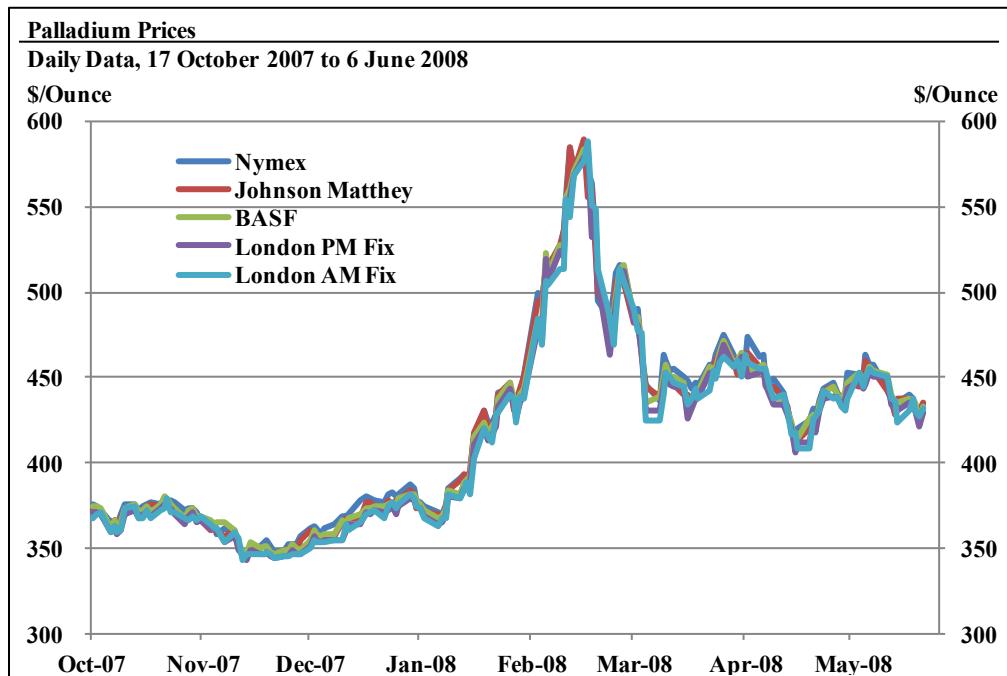
**Notes:** Correlations are between the daily changes in the Nymex palladium settlement price and the daily changes in the palladium prices as quoted by Johnson Matthey, BASF, and the London Fixes.

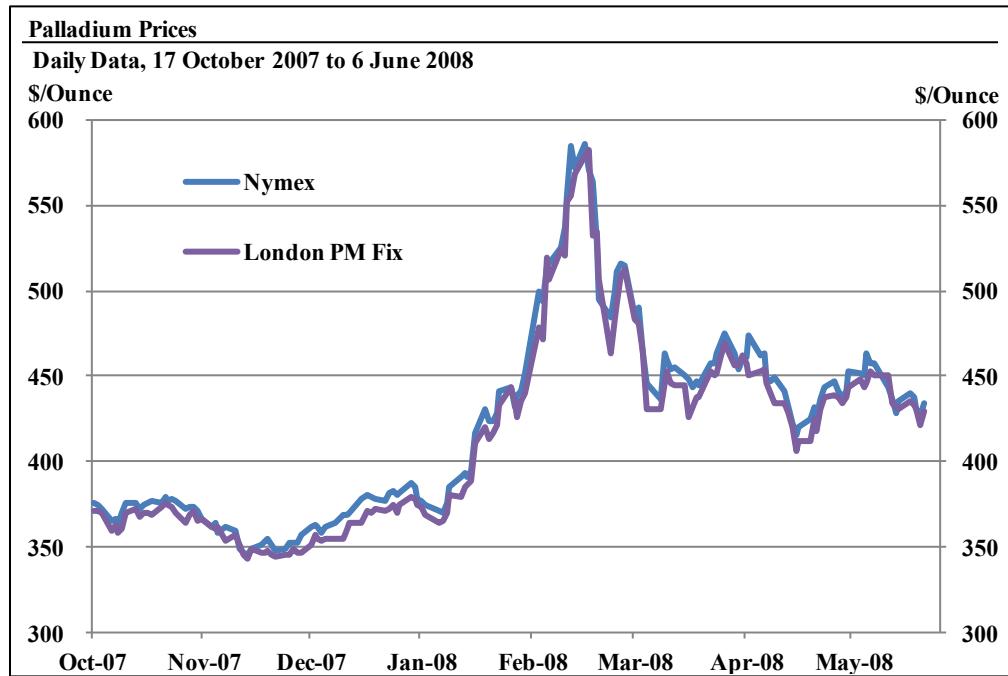
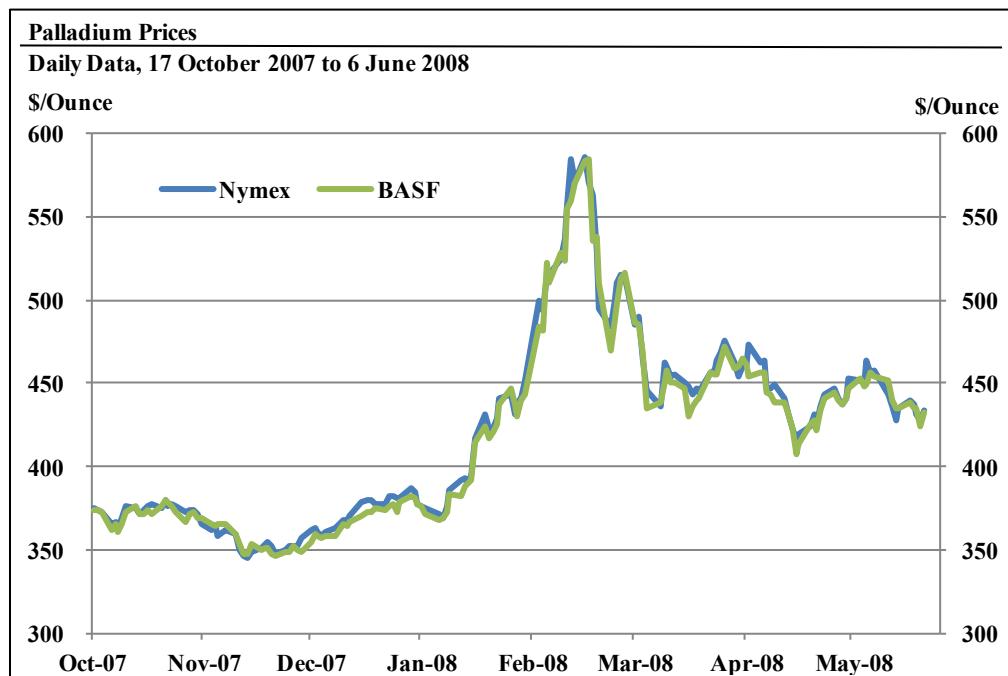
BASF prices are U.S. Engelhard Industrial Bullion prices.

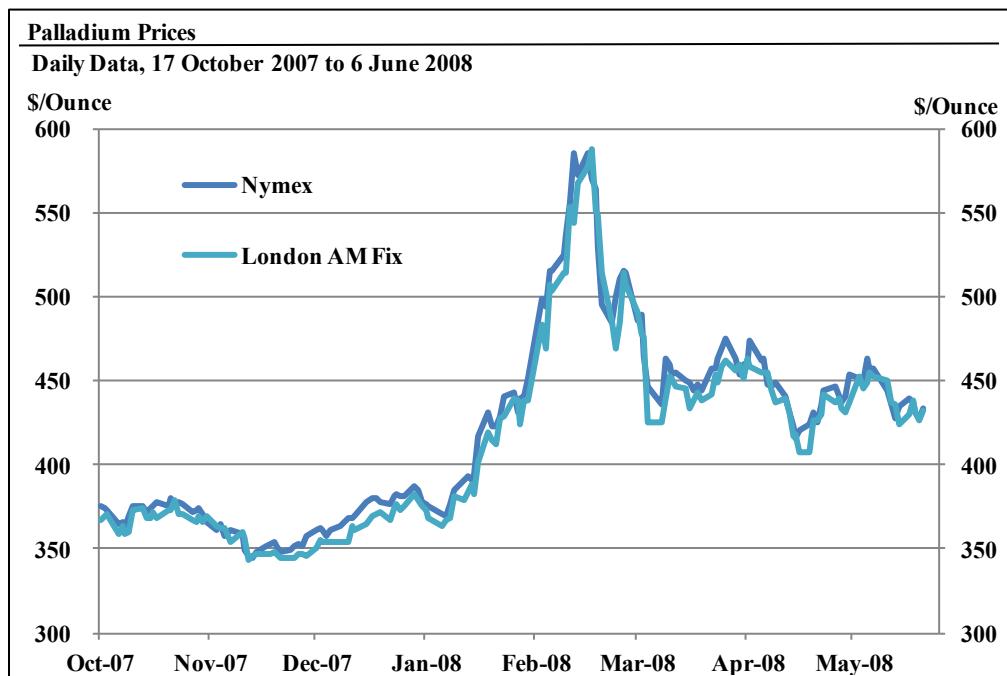
Source: CPM Group, Bloomberg

## Palladium Prices: Charts for Period under Review

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## Palladium Price Charts

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